

MISSOURI CONSERVATIONIST

VOLUME 85, ISSUE 7, JULY 2024
SERVING NATURE & YOU





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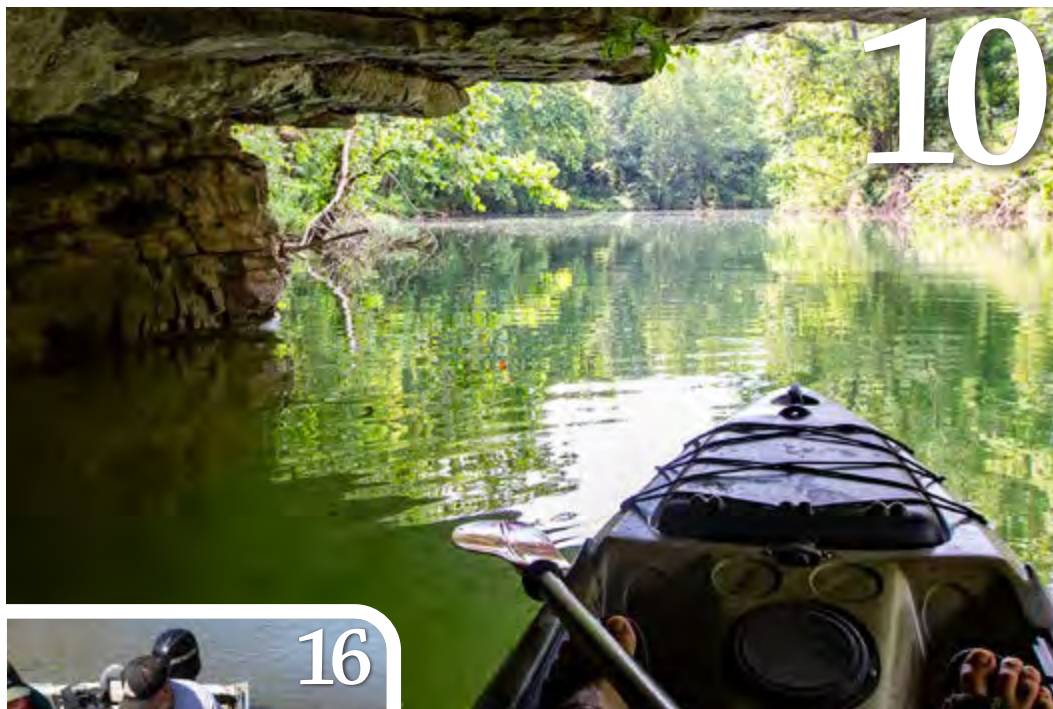


Interested in exploring the outdoors, but unsure where to start? It's as easy as stepping out your door! Join host **Jill Pritchard** from the Missouri Department of Conservation as she explores everything nature has to offer — from health benefits and wildlife viewing, to outdoor recreation and unbelievable conservation stories. Subscribe and get your own Nature Boost!

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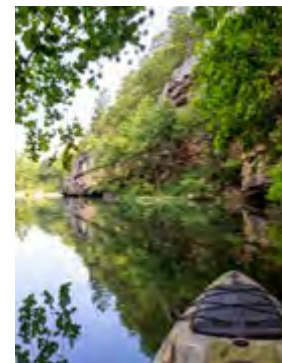


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MISSOURI CONSERVATIONIST



ON THE COVER

Paddling on the
Big Piney River

📷 **DAVID STONNER**

16-35mm lens, f/8
1/100 sec, ISO 400

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Letters to the Editor

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FIREFLIES

I love fireflies [*Twinkling of a Summer Night*, May, Page 10]. Fireflies and cicadas are the best sights and sounds of summer. They always elicit memories of my youth.

Melissa Hope
Jefferson City

AWAKENING A LIFELONG HOBBY

I'm a recent graduate of Truman State University in Kirksville. I have lived in Missouri all my life, specifically Kearney and Liberty, and have fond memories of going to Kansas City region conservation areas on field trips when I was little.

I love the magazine and have been reading it for years. I even had a class in high school that offered extra credit for anyone who subscribed to the magazine.

While at Truman, I took Biology 506: Ornithology, taught by Dr. Joanna Hubbard. I originally took the class to fulfill a requirement to graduate but have since fallen in love with birds and birdwatching. Dr. Hubbard is an ornithologist doing research on eastern bluebirds and has such a passion for the subject that it made the class a blast. Our class had 13 people, and we would do lab days every other weekend during the semester where we go to a local state park or conservation area and observe the species there. This class was easily my favorite in all of college and I want to thank Dr. Hubbard for making my senior year just that much more exciting and for sparking this interest that I never knew I had.

Brayden Schoening via email

CHUCK-WILL'S-WIDOWS

The article about Chuck-will's-widows in May's issue really caught my eye [*Species of Conservation*

Concern, Page 8]. We

lived in southwest Florida for many years where we heard (but never saw) these

wonderful birds every night. Theirs was a sound I thought was unique to nighttime in Florida, so I was surprised to read they exist in Missouri. I have never heard them here in Cape Girardeau County. But I'll keep listening!

Thanks to the author for a great feature piece, and a reminder to me of "home."

Mike Dillow Jackson



CORRECTION

On Page 10 of the June issue, we printed: "Per the Federal Duck Stamp Modernization Act of 2023, the Federal Duck Stamp has been converted to a digital version and hunters are no longer required to carry a paper copy. Hunters must have a digital version in their possession." The second sentence isn't fully correct. To hunt waterfowl, you must have a federal duck stamp, but it can be either a digital version (e-Stamp) or a traditional (paper) version. If you're using a paper duck stamp, you must sign your name across the face of the stamp. If you use an e-Stamp, you do not need to sign and carry a paper duck stamp. For more information, see the *Migratory Bird and Waterfowl Hunting Digest*, which is available in July at permit vendors and online at short.mdc.mo.gov/Zjw.

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Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/commissioners.

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



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Share your photos on Flickr at
[flickr.com/groups/mdcreaderphotos-2024](https://www.flickr.com/groups/mdcreaderphotos-2024)
or email Readerphoto@mdc.mo.gov.



1

1 | Belted kingfisher by
Doug Wallace,
via Flickr

2 | Five-lined skink tail by
Bryan Hunt,
via Flickr

3 | Purple coneflowers by
Alex R., via Flickr



2



3



Want another chance to see your photos in the magazine?

➔ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



Up Front

✱ When I sat in front of my first interview panel in the old Missouri Department of Conservation (MDC) research office in Columbia 16 years ago, I never imagined the twists and turns my career would take or that the journey would lead me here, serving as the 10th MDC director.

My journey to a career in conservation began as a young child with parents who loved the outdoors. We spent weekends floating streams or simply flipping rocks and floating sycamore bark down the creek like it was a big river barge. Winter nights were often spent tagging along with my dad, following behind hounds hot on the trail of a raccoon.

I'm driven by a strong belief that nature matters and that a future with healthy fish, forests, and wildlife where all people appreciate nature is our north star and should continue to guide us forward. I'm extremely honored that the Missouri Conservation Commission has entrusted me with this enormous responsibility of leading the department. There is no state model for conservation quite like the Missouri model, and that's because of our unique relationship with the public. I'm humbled by the opportunity to serve the resources of Missouri and its citizens in furthering our great conservation legacy.

I look forward to seeing many of you enjoying nature in Missouri.

JASON SUMNERS, DIRECTOR

JASON.SUMNERS@MDC.MO.GOV

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HABITAT MANAGEMENT

Karst Fen Surveys

Researchers evaluate features of karst fens, create ecological site description

by Dianne Van Dien

✳ **Mucky soil, sedges, mosses, and forbs** — these are things you will see if you come across a fen. But what exactly is a fen?

“Fens are unique wetlands because their soils are consistently saturated,” says MDC Wetlands Systems Manager Frank Nelson.

In the Ozarks, fens are part of the same geology — known as karst — that creates caves, sinkholes, and springs. These features occur in areas where groundwater dissolves parts of the calcium-rich bedrock. With fens, the groundwater seeps out slowly above certain layers of bedrock and keeps the soil soggy. Too wet for trees, fens are small areas where specific types of non-woody plants grow.

MDC, the U.S. Forest Service, and the nonprofit NatureCITE have partnered to evaluate 30 fen sites in the Ozarks to create an ecological site description (ESD) for this unique habitat. ESDs help land managers and private landowners better understand and care for their land, but fens had no ESD. In 2020, researchers began surveying the soil and plants at these sites to gather reference criteria.



By sampling soil at fens throughout the Ozarks, researchers quantified fens as one of the only ecosystems in Missouri with organic soil properties.

The lack of oxygen in fens’ cool, wet soils slows decomposition, resulting in the buildup of organic plant matter over time. “With this project,” says Kyle Steele, forest ecologist at Mark Twain National Forest, “karst fen soils will become the first organic soils to be formally described in Missouri.”

Fens also have “a distinct assemblage of plants,” Steele says. “These plants have the unique ability to handle soggy soils with a high amount of calcium.”

Some of these plants typically grow in cool, wet climates farther north. Due to the unique plants and wet conditions, Nelson says, fens support a diversity of smaller animals, including dragonflies, pollinators, crayfish, and snails.

“A lot of fens are small in size,” says Steele, “but they’re so unique and contribute to the broader biological diversity of the region.”

At a Glance

No two fens are exactly alike, but they share common traits. Fens in the Ozarks:

- Have organic soil properties, which are very rare in Missouri
- Contain unique plant groupings that use wet, high-calcium soils
- Support unique insect species
- Tend to be small (0.1 to 30 acres)
- Have consistent water table at or near the soil surface



In some fens, **sedges** are the main vegetation, while others look prairielike with a variety of flowering plants, mosses, and sedges, in addition to some grasses.

In Brief

News and updates from MDC



Proposed incremental increases to select permits, such as a Trout Permit, will help MDC keep pace with the rising costs of goods and services.

Rainbow trout

PERMIT PRICES

MDC SEEKS FEEDBACK FROM ANGLERS, HUNTERS, TRAPPERS

➔ Missouri is home to more than 1 million anglers, 500,000 hunters, and several thousand trappers. MDC issues nearly 2.6 million hunting, fishing, and trapping permits each year. While MDC permit prices have increased only slightly over the past 20 years, MDC's cost of doing conservation work has increased significantly.

To keep pace with rising costs of goods and services, MDC has implemented initial price adjustments to most permits over the past several years and proposes additional modest and gradual adjustments to permit prices over the coming years.

For 2025, MDC is proposing an incremental increase to nonresident permit prices and a few resident permit prices. The Missouri Conservation Commission gave initial approval to the proposed permit price adjustments at its May 24 open meeting in Jefferson City.

Additional revenue from permit sales will help MDC maintain and improve its nationally recognized programs and services for hunters, anglers, wildlife watchers, and others. The additional revenue will also help with the rising costs of improving buildings and other infrastructure at conservation areas, fish hatcheries, shooting ranges, and nature centers that are many decades old and in need of significant repair or replacement.

MDC proposes the following permit price adjustments for 2025:

- The price of a Nonresident Fishing Permit would go from \$51 to \$53.50. The average price for surrounding states is \$57.50.
- The price of a Daily Fishing Permit would go from \$8 to \$9. The average price for surrounding states is \$8.31.
- The price of a Trout Permit would go from \$10 to \$12. The average price for surrounding states is \$12.75.

continued on Page 6 »

PERMIT PRICES *(continued from Page 5)*

- The price of a Trout Permit for youth 15 years of age or younger would go from \$5 to \$6. The average price for surrounding states is \$7.
- The price of a Nonresident Small Game Hunting Permit would go from \$98 to \$102. The average price for surrounding states is \$126.84.
- The price of a Daily Small Game Hunting Permit would go from \$14.50 to \$15. The average price for surrounding states is \$66.04.
- The price of a Nonresident Furbearer Hunting and Trapping Permit would go from \$200.50 to \$208.50. The average price for surrounding states is \$258.69.
- The price of a Migratory Bird Hunting Permit would go from \$6.50 to \$7.50. The average price for surrounding states is \$14.81.
- The price of a Nonresident Conservation Order Permit would go from \$49 to \$51.
- The price of a Nonresident Turkey Hunting Permit (spring season) would go from \$233.50 to \$243.50. The average price for surrounding states is \$255.22.
- The price of a Nonresident Turkey Hunting Permit (fall season) would go from \$135.50 to \$141.50. The average price for surrounding states is \$202.67.
- The average price for a Nonresident Firearms Deer Hunting Permit would go from \$276.50 to \$288. The average price for surrounding states is \$374.31.
- The price of a Nonresident Firearms Antlerless Deer Hunting Permit would go from \$26 to \$27. The average price for surrounding states is \$43.63.
- The price for a Nonresident Archer's Hunting Permit would go from \$276.50 to \$288. The average price for surrounding states is \$436.69.
- The price for a Nonresident Managed Deer Hunting Permit would go from \$276.50 to \$288.
- The price for a Nonresident Landowner Firearms Turkey Hunting Permit (spring season) would go from \$172 to \$179.50.
- The price for a Nonresident Landowner Firearms Turkey Hunting Permit (fall season) would go from \$100 to \$104.50.
- The price for a Nonresident Landowner Archer's Hunting Permit would go from \$203.50 to \$212.
- The price for a Nonresident Landowner Firearms Deer Hunting Permit would go from \$203.50 to \$212.

Comments on the proposed permit price adjustments will be accepted from July 2 to Aug. 1. For more information and to submit comments, visit short.mdc.mo.gov/4uN.

MDC will compile comments received and share them with the commission prior to the Sept. 6 commission open meeting when it will give final consideration to the proposed permit price adjustments. If approved, the changes would become effective Jan. 1, 2025.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov
or call 573-522-4115, ext. 3848.

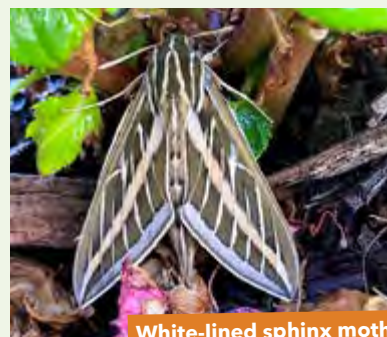
Q: I found this huge mothlike bug sitting in my begonia plant. It is at least 2 inches long! What is it?

➔ This is a white-lined sphinx moth (*Hyles lineata*).

These common moths can be 2½ to 3½ inches. As larvae, they feed on a wide variety of herbaceous plants, of which purslane is probably their favorite. As caterpillars, they pupate in shallow burrows in the soil. As adults, you'll see them gathering nectar from early April through November at a variety of flowers — columbines, larkspurs, honeysuckle, clovers, and possibly this begonia. They can also be found gathering at lights.

Q: On a June evening, we saw 49 bats leaving a bat house. When the exodus slowed, I checked the house with a flashlight and noticed about six still there; I figured they were probably young that hadn't worked up the courage to leave. Two days later, not a single bat remained. Did they raise their young?

➔ Yes, June is what we refer to as the "maternity season" for bats. At that time, bats have migrated into their summer habitat and break up into maternity (female) and bachelor



White-lined sphinx moth

(male) colonies. Many species of bats have a network of summer roosts where they spend a few nights at a time and then travel to another. This behavior is still being researched, though it is believed the female bats are figuring out which roost will provide the most security for their pups. Shining lights on roosting bats can cause them to abandon a site, so we suggest avoiding that if you would like your bats to stay.

As we approach August, maternity colonies of bats have completed rearing this year's pups and they are now fully independent. As the pups mature, the colonies begin to break up. It's likely you will see the juvenile bats roosting in odd spots on your property as they learn to find safe spaces. As we approach fall and winter, you will likely only see an individual bat or possibly a small social group using the roost. These small



groups may be juveniles returning "home" as they develop their confidence, or they may be bats having a layover during migration. For more information about how to support Missouri's native bats, visit short.mdc.mo.gov/4ur.

Q: I found this dragonfly on my hanging basket. Can you help me identify it?

➔ It is a female smoky shadowdragon (*Neurocordulia molesta*).

Adults of this species, and most others in the genus, only fly

during twilight, and only a few inches above the water surface. This way they avoid daytime birds and nighttime bats. They are the only genera regularly collected at lights. This species occurs only in very large rivers, mainly the Mississippi and Missouri.

Larvae live on driftwood and seem to take two years to mature as their woody debris drifts along. The adults leave the river after emerging for a week or so to mature before returning to forage and mate. If you catch an adult on the river, it almost always is headed upstream.



Taylor J. Stutzman

ST. CHARLES COUNTY
CONSERVATION AGENT

offers this month's

AGENT ADVICE

July is a great month to pursue catfish on the state's big rivers — the Missouri and Mississippi. Anglers can use a variety of methods to harvest these popular game fish. Trotlines, throwlines, limb lines, bank lines, and jug lines are often used. Be aware of the laws where you're fishing. The Missouri allows only 33 hooks in the water while the Mississippi allows 50. A pole and line count against these numbers. All set lines must be properly labeled with a conservation ID number or name and address. Boats must be outfitted with working personal flotation devices for each person onboard. For more information, visit *A Summary of Missouri Fishing Regulations* at short.mdc.mo.gov/4ug.

What IS it?

Can you guess this month's natural wonder?

*The answer is on
Page 9.*



WE ARE CONSERVATION

Spotlight on
people and partners

by Emily Franklin

Norm Stucky

➔ Norm Stucky says his passion for conservation started when a Kansas Department of Fish and Wildlife employee visited his one-room schoolhouse. He also recalls hunting rabbits with his father and a good friend helped spark his passion for waterfowl and the importance of wetlands.

Restoring Prairies and Wetlands

Back in 1991, Norm and his wife purchased 130 acres on the Moreau River with the intention to manage it for the benefit of fish, forest, and wildlife. After taking out most of the cropland, and with the help of cost-share and technical assistance from Partners for Wildlife, Norm has been able to restore prairies and wetlands along the river. He also has a timber management plan for an estimated 60 acres of woodland.

His Reflections

Norm says that there have been many joys and surprises of managing wetlands, including a visit from a Hudsonian godwit that was banded in Chile and had traveled over 5,722 miles.



Hudsonian godwit

What's **your** conservation superpower?

APPLY FOR MANAGED DEER HUNTS

Beginning July 1, deer hunters can apply online through MDC's website for a chance at more than 100 managed deer hunts throughout the state this fall and winter.

MDC offers managed deer hunts for archery, muzzleloading, crossbow, and modern firearms from mid-September through mid-January at conservation areas, state and other parks, national wildlife refuges, and other public areas. Some managed deer hunts are held specifically for youth or for people with disabilities.

The managed deer hunt application period is July 1–31. Hunters are selected by a weighted random drawing. Draw results will be available Aug. 15 through Jan. 15. Applicants who are drawn will receive area maps and other hunt information by email, or mail if an email address is not located on the customer's account.

Get more information on managed deer hunts, preview hunt details, and apply starting July 1 at mdc.mo.gov/managedhunt.

Details about managed hunts can also be found in our *2024 Fall Deer & Turkey Hunting Regulations and Information* booklet, available starting in early July at MDC offices and nature centers, from permit vendors around the state, and online at mdc.mo.gov.



CHANGES TO FALL TURKEY HUNTING REGULATIONS

Regulation changes to fall turkey hunting will reduce the harvest limit from four to two birds of either sex and will now require both fall firearms turkey hunters and fall archery turkey hunters to purchase a fall turkey hunting permit. Turkeys will no longer be included in the archery deer permit. The changes to fall turkey hunting regulations aim to reduce the fall harvest while maintaining as much opportunity for hunters as possible. The Missouri Conservation Commission gave final approval to the regulation changes at its April 5 open meeting. Learn more about turkey hunting in Missouri at short.mdc.mo.gov/Ztu.

WHAT IS IT? RED MILKWEED BEETLE

Red milkweed beetles (*Tetraopes tetraphthalmus*) primarily eat common milkweed. The larvae bore into the roots and overwinter below ground. The adults emerge in late spring and chew the foliage and leaves of milkweeds. By ingesting milkweed's toxic chemicals, these beetles become unpalatable or sickening to predators. The genus name, *Tetraopes*, means "four-eyed." Each eye is divided by an antenna base.





Embark on a peaceful journey down the winding curves of the Big Piney River, where every bend reveals beautiful rock bluffs and the allure of bass fishing.

PHOTOGRAPHS BY DAVID STONNER

THE PATH LESS PADDLED



NONTRADITIONAL FLOATS
GET PEOPLE ON THE WATER,
OUT OF THE CROWDS



by Tim Kjellesvik

If Missouri had an official pastime, it would be the float. Our beautiful streams beckon people from all over the state and even beyond our borders, but that popularity can lend itself to crowds.

What if you're in the mood for the path less paddled? What about those often-overlooked float destinations? Those out-of-the-way sections of stream that, for some reason, just tend to flow beneath the collective radar. Let's dip our paddles into some of these nontraditional float destinations and find your next aquatic adventure.

But before we drift too far ahead, a brief note about how water is classified. The International Scale of River Difficulty is the standard for classifying rapids and rates water on a continuum from I to VI. The higher the rating, the more difficult the water. For our purposes, we'll only be looking at Missouri streams with Class I to Class III potential.

They're defined as:

- Class I: Easy — Smooth water with clear passage and slight riffles. No maneuvering is required.
- Class II: Novice — Moderate difficulty with identifiable rapids and clear passage between hazards. Some maneuvering is required.
- Class III: Intermediate — Moderate difficulty with fast water, standing waves. Rocks and other hazards exist with narrow passage through them. Maneuvering is required.



SHOAL CREEK

You can find Shoal Creek tucked away in the far southwest corner of the Show-Me State, just south of Joplin. What it lacks in notoriety, it makes up for in spunk. This stream is over 81 miles long, with 43 of those miles here in Missouri. The remainder of this river flows through Kansas.

Running Shoal Creek breaks the mold of the traditional, demure Missouri float. Locals know this boisterous stream's Class I waters can quickly bump up to Class II and Class III rapids with a good rain, so be sure to know the water conditions ahead of time and match your skill to the float.

Shoal Creek earned its name due to its chert rock ledges, riffles, and even a few spectacular waterfalls. Depending on recent rainfall and water conditions, there may be sections that require portaging your boat, like the rocky drop at mile marker 4.0 near the old mill dam.

If water levels permit, a great 15-mile float can be enjoyed like a good book, from the very beginning. Put in at the headwaters of Shoal Creek at the Smack-Out Access and travel through to the Cherry Corner Access.

A must-see on any Shoal Creek float itinerary is Grand Falls in Joplin. An eye-ful of hydrological delight, this vast set of falls is a dance between man- and nature-made water features. Terminating your trip at the falls is a great way to see the best



Great blue heron

of what Shoal Creek has to offer. The Grand Falls North Access is at mile 37.6, so work in reverse by picking your mileage and choosing an access that suits your schedule.

Shoal Creek crosses the Missouri-Kansas border, so if your adventure takes you across the state line, please be aware that Kansas laws related to floating through private property differ from Missouri.

For up-to-date, detailed information on planning your trip to Shoal Creek, check out joplinkayak.com.

BOURBEUSE RIVER

Though not as crystal clear as an Ozark stream, the Bourbeuse River crazily meanders over 100 miles through just 27 miles of gorgeous Franklin County forest and agricultural ground. The Bourbeuse River hides in plain sight, less than an hour from St. Louis, while thousands of people drive over it on I-44 heading to float other streams, unaware of this gem in their own back yard.

The Bourbeuse River is a genteel river with all Class I water, so expect to do some paddling, especially if your time is short or you have a headwind. It is not in a hurry as it slowly rolls toward its confluence with the Meramec River.

Bass fishermen should definitely pack a spinning rod and an assortment of crawdad and shad mimicking crankbaits and jigs. The turbid waters of the Bourbeuse River are fertile and a great fishery for large and smallmouth bass. If you have time, the long, slow, and deeper pools of the river are great for channel catfishing.

An 11-mile trip that offers MDC access points at each end is Reiker Ford Access to Mayers Landing Access. This section boasts some beautiful bluffs. Extend that section to a full 20-mile trip by continuing to the Highway 50 Bridge and Union Access.



PADDLING POINTERS



Regardless of your nontraditional float destination, here are some universal bonus pointers to ensure you have the best experience on your adventure. Many of our Missouri rivers are fed by springs. While attractive to people, these are delicate and often legally protected ecosystems, home to some species that are found nowhere else. Please be cautious around springs and follow the local regulations for them.

Make a mesh onion sack part of your float trip loadout. These are perfect for collecting your trash and any other garbage you may encounter on your travels. Wear your personal flotation device (PFD). No one ever plans on an accident. PFDs are the best way to keep your adventure from becoming a misadventure.

Latch any loose items to your boat. If you tip, it's easier to keep all your gear together than it is chasing it down the river. **Do not** leash pets to your boat. River conditions can change rapidly, so check flow rates from the U.S. Geological Survey ([usgs.gov](https://www.usgs.gov)) before you go to ensure it's both safe, and that there's enough water to float.

Different sections of water can have different angling regulations. Be sure you know all the rules and have your fishing license before you cast. Cell service can be spotty on our rivers, so be sure to file an itinerary with friends or family.

Finally, be courteous to other people on the river. Your encounter is part of someone else's experience, and they are a part of yours. Make it a positive one. Be friendly, helpful, and encouraging. These rivers belong to us all.





BIG PINEY RIVER

Predominantly Class I water with the occasional Class II sections after a good rain, the Big Piney River flows into our list of nontraditional floats because its reputation as a smallmouth angling destination often overshadows its floating credentials.

Carving its way north over 110 miles through Texas, Pulaski, and Phelps counties and through majestic pine-crowned limestone bluffs, this river has enough twists and turns to keep any paddler on their toes. Its ultimate destination is joining forces with the Gasconade River.

In addition to keeping a fishing rod handy, be sure to keep your camera handy, too. Since this river sees so few people, wildlife abounds along this corridor, and each bend brings a new opportunity to experience nature.

For a quick day trip on the Big Piney River, drop in at the Sandy Shoals Ford access and float for just over 6 miles down to Boiling Springs. The spring is an impressive attraction, pumping 10 million gallons of water per day.

Pack your camping gear for an epic, 40-mile adventure and put in at Mineral Springs Access and float to the Ross Access.

The Big Piney River flows through lands managed by U.S. Forest Service, Ft. Leonard Wood, MDC, and private landowners. If you're camping, be sure to know the rules for the ground you're on.





ELEVEN POINT RIVER

Make travel to the river part of your nontraditional float adventure by experiencing the Eleven Point River. The Eleven Point River's course carries it 49 gorgeous miles through the Missouri Ozarks in Oregon County before crossing the state line into Arkansas. It is designated as a National Wild and Scenic River for good reason but is overlooked by would-be floaters in Missouri because its location is far away from major population centers.

For most of us, that means we'll be spending some time on the road to get there, but the drive is worth it. Bejeweled by gorgeous, brisk, clear-flowing springs and hemmed by looming dolomite bluffs, the Eleven Point River boasts a multitude of options for floats, all with their own unique beauty and charm. No matter how long it takes you to get there, choose from a wide variety of float distances.

Short on time and want to catch some trout? Try the 6-mile section from Greer Spring to Turner Mill. Thanks to the 200 million gallons of water contributed by the spring daily, this section is never too low to float and is a designated Blue Ribbon Trout Area.

Just be sure to pay attention to the special rules that apply in Blue Ribbon waters. This float can take between two to four hours...longer if the fish are biting.

If you're looking for a multi-day camping float adventure, start your float on the western half of the upper section of the river at Thomasville and pull out at Riverton. With over 35 miles of river to explore and about 20 hours of paddling, you'll watch as the river grows in stature with each passing spring and tributary. Overnight opportunities on this epic adventure are numerous and varied, including primitive float camps, gravel bars, and privately operated campgrounds.

Are you ready for a nontraditional Missouri float adventure? Make your plans now to beat the crowds with these off-the-beaten-path paddling destinations. ▲

Tim Kjellesvik is a bowhunter, endurance athlete, angler, and is on a mission to introduce more people to the great outdoors.



A PADDLER'S GUIDE TO MISSOURI

While this story outlines four great rivers for nontraditional floats, Missouri is blessed with many options for canoeing and kayaking, ranging from its nationally recognized spring-fed Ozark rivers to slow-moving rivers of its northern glacial plains.

Regardless of your preferred float style, the updated and expanded *A Paddler's Guide to Missouri* can help you plan your next outing. Whether you're an experienced floater looking for new challenges or a novice looking for help planning a trip, *A Paddler's Guide to Missouri* can help. This 102-page, spiral-bound guide includes trip planning, equipment, paddling pointers, and maps of 54 Missouri streams and rivers. New to the 2023 edition are maps

of the upper Mississippi River from Hannibal to St. Louis and an expanded section on the Big River.

A Paddler's Guide to Missouri is available for sale at most MDC nature centers. Order online at mdcnatureshop.com or call toll-free 877-521-8632.





Seeking *Grand* Solutions

RIVER RESEARCH
FOCUSES ON INVASIVE
CARP REMOVAL

by Gilbert Randolph

MDC biologists remove
invasive carp from portions
of the Grand River in
northwest Missouri.

PHOTOGRAPH BY
NOPPADOL PAOTHONG



In September, MDC collaborated with FKF Fisheries, Kansas Parks and Wildlife, and the U.S. Fish and Wildlife Service (USFWS) to remove 38,700 pounds of invasive carp from the Grand River on portions of water near Brunswick and Bosworth. The effort was the second removal in the Grand River and an opportunity to test experimental methods of removing these destructive invasive species, to quantify how many fish need to be removed to lower their populations, and to begin making connections to find a use for the fish once they are harvested.



History

Silver and bighead carp were introduced in the 1970s for their ability to remove algae from aquaculture systems and sewage treatment plants, but they escaped and quickly began to reproduce in the basins of the Mississippi and Missouri rivers. They have now been found in 20 states and pose a serious threat to the balance of aquatic ecosystems around the U.S.

According to USFWS, they are native to the Amur River of northeast Asia. While they are threatened in their native range, they have found tremendous reproductive success in our own river systems. They are also an important food fish for much of the world and, according to the 2022 U.N. Report on the State of World Fisheries and Aquaculture, silver and bighead carp rank in the top six most farmed fish in the world. Sometimes backed by government subsidies in Illinois and other states, these fish are being exported to overseas food markets.

Silver carp



Bighead carp



Bighead and silver carp are invasive nonnative species that serve no beneficial purpose to Missouri's ecosystem. Found in large rivers and lakes across Missouri, bighead and silver carp can outcompete native plankton-eating fish, including paddlefish, bigmouth buffalo, and the young of many other desirable native fishes. Both species are large, heavy-bodied fish, but here are just a few characteristics that distinguish a bighead carp from a silver carp:

- A bighead's eyes sit lower on the head.
- A bighead carp's head is larger than that of a silver carp.
- A bighead carp's body is covered with dark splotches.



Researching Removal

With grant funding from USFWS, MDC has been researching better methods of removal and gathering data on how much harvest is needed to put a dent in their populations. The majority of the roughly 1.5 million dollars earmarked for carp control by USFWS has historically been focused on keeping silver and bighead carp out of the Great Lakes. It is feared that the introduction of these fish into the Great Lakes would cause economic and ecological devastation. For similar reasons, the Mississippi Interstate Cooperative Resource Association, state agencies, and other partners have been making the case for allocating funding for carp removal in other parts of our big rivers as well.

There are numerous barriers to overcome in tackling how to control these invasive species, a need for more data on catch methods being one such challenge.

According to Kasey Whiteman, MDC resource science field station supervisor, most of the invasive carp harvested in Missouri is in the central part of the state on the Mississippi River. Since the Mississippi River has had more funding and subsidies, there's more participation from commercial fishermen and the larger, slower sections of water is easier to fish than other systems such as the Missouri River.

Both silver and bighead carp are pelagic fish, swimming in schools in the upper part of the water column. They are difficult to stun and, especially in the case of silver carp, will jump out of the water to escape the effects of electrofishing gear or nets. Some wildlife managers have found success using this behavior to corral large schools of fish using motor noise or electrofishing, but in the Grand River removals, several promising new methods were put to the test.

The fish netted in this effort will be used in a variety of ways. FKF Fisheries will sell the harvested fish to anglers and commercial fishermen as cut bait. There are other innovative uses being explored for these fish, such as making sustainable fish leather from the skin for the fashion industry.



Testing Removal Methods

The first of these new boat setups is a “dozer trawl.” This is a boat that uses a combination of electrodes hung from the front of the boat and a net that is dragged below the front of the boat to collect the stunned fish. This method found success in shallower water if there weren’t a lot of snags.

The second experimental method is a “paupier boat,” which uses two nets hung from the side of the boat as well as electrofishing gear hung from the front of the boat to stun the carp and catch them. This method was most effective in deeper bodies of water.

Gill nets and traditional electrofishing were also tested in this removal, with the gill nets being more effective in deeper water, while the traditional electrofishing excelled in shallow water where heavy snags would make it difficult to use catch methods that rely on large nets.

The first of these removal events closed off a 6-mile stretch of the river using nets. Limiting the movement of fish made it possible to estimate how much of the total population of invasive carp was removed. The total came out to 24,500 pounds of invasive carp removed, which equaled approximately 50–60 percent of the carp population in that closed section of river.

The second event covered 9 river miles and unlike the first removal, the river was not blocked with nets to prevent fish from moving down or



Both silver and bighead carp swim in schools in the upper part of the water column. **They are difficult to stun and will jump out of the water to escape the effects of electrofishing gear or nets.**



upstream. After eight netting sessions, 38,700 pounds of carp were removed from the system. The percentage of these fish as a part of the biomass in the river is still being calculated.

Only 8 percent of the fish caught were native fish. The team was able to set their gear to target the upper water column and largely avoid catching non-target species. Keeping bycatch low will be a critical aspect of creating methods for removing the carp without negatively affecting the desirable native fish in the river.

Using the Fish

Once the fish are caught, there is the question of what to do with them.

“The invasive carp removed by commercial fishermen are utilized in multiple ways, such as food products, fertilizer, fish oil, fish meal, and bait,” Whiteman said.

Illinois has created the “Copi” program, which is a renaming effort that both seeks to connect American consumers with the culinary merits of bighead and silver carp while also providing opportunity for commercial fishers to sell directly to restaurants and processors. The restaurants included



Limiting the movement of fish with nets helped estimate total population of invasive carp removed. Using a paupier boat (bottom left) was most effective in deeper bodies of water. After eight netting sessions in September, 38,700 pounds of carp were removed.



on the Copi website span everything from classic midwestern style po'boy sandwiches to the Japanese street food okonomiyaki.

Whiteman noted that the fish caught in the Grand River tended to be in the 3-to-5-pound range, which is a smaller size than what is typically desired for food production. There may be potential in other river systems in Missouri to catch fish that are food market sized, and there have been efforts to demystify how to prepare silver and bighead carp so they can start becoming more accepted as a food source in the U.S.

Besides a food product, silver and bighead carp can be used in the commercial bait market. Much of what was caught in these removal projects will be sold as cut bait for anglers or as bait for lobster and crayfish fishermen. This use holds some exciting promise as an alternative to bait species such as herring and menhaden, which have faced challenges regarding overharvest.

INVERSA Leathers, a company that specializes in creating leather products from invasive species, has developed a product from the skin of captured fish. Several major brands are currently testing products for their application in the fashion industry.



Henri Ferre of INVERSA Leathers stressed the importance of developing supply chains for these fish to help establish a commercially viable system of harvest.

"Some states have limited their incentive programs to just pay reimbursing processors or harvesters, but we believe there is a lot of room to expand and improve upon the commercial harvest within Missouri and other states by building out the local supply chain with other valuable products," Ferre said. "We've done this with lionfish, we've done this with python. We've started to implement our model in Mississippi and are exploring other lower basin states. We think our model could be replicated across the basin and facilitate large-scale removals of carp."

Like any fishery, there is no one-size-fits-all solution, and a multiplicity of partners are needed to create a future for commercial carp harvest in the U.S. The current MDC efforts to research invasive carp control will need more dedicated funding and partnerships in the commercial fishing industry to help create reliable methods of harvest, measurable harvest goals, and markets for the fish once they are caught. ▲

Gilbert Randolph is a writer and an avid outdoorsman. When he's not creating stories in the digital space, he's exploring nature and sharing it with people.

A photograph of three children in a lush green field, holding long-handled white nets, likely for insect catching. They are wearing yellow t-shirts. In the background, there are trees and a blue and white striped tent. The field is filled with tall green grass and some yellow wildflowers.

conservation EDUCATION

SUITE OF PROGRAMS HELPS EDUCATORS
BRING NATURE TO STUDENTS

by Maddie Fennewald | photographs by David Stonner

An ecological oasis filled with native plants and insects offsets the chaos of an elementary school playground. While the noise of children playing works to drown out the quiet hum of insects traveling between plants, the insects continue their work dutifully pollinating the plants. This beautiful pollinator plot has brought nature back to the schoolgrounds, and through implementing a pollinator plot, the school has reduced its mowing area. Students can observe the life cycles of the living organisms that call this pollinator plot a home, and the tie between these students and nature grows stronger each time they interact with the area.





The Discover Nature Schools curriculum emphasizes hands-on learning about Missouri's native plants, animals, and habitats.

"MDC prioritizes educating the public about nature and conservation, but we have to meet people where they are, and that includes the schoolyard," said Shawn Gruber, education chief. "Education is vital to ensuring people are comfortable and safe when recreating outdoors, so we offer various forms of educational programs for students to encourage childhood exploration and learning."

Teacher Portal

As the school year draws near, teachers and students alike are preparing themselves for the coming months. MDC's *Teacher Portal* serves as a one-stop shop for teachers looking to introduce conservation-related content to their classrooms. This portal provides information covering the free workshops being offered by MDC for teachers, different classroom materials that can be provided to teachers at no cost, educational grants designed to promote class exploration of Missouri's natural ecosystems, and the various curriculums offered by MDC for Missouri teachers. Teachers who access this portal, which can be found at education.mdc.mo.gov, will also be guided through the school programs being offered around the state.

Discover Nature Schools

While it's important for students to experience hands-on nature opportunities, classroom learning is just as vital to teaching an understanding of and appreciation for conservation. The Discover Nature Schools (DNS) program is a no-cost program that emphasizes hands-on learning, teaches problem solving, and provides authentic and local contexts for learning. DNS teaches students from pre-K through high school about Missouri's native plants, animals, and habitats and connects them with nature. Missouri schools using the DNS curriculum are provided student books, teacher guides, and training workshops at no charge.



The students involved with DNS curriculum are not the only ones that benefit — teachers who use this curriculum often find themselves more immersed in local nature as well.

“I love how we can teach students about the local outdoors, and I love that the Missouri state (education) standards are covered,” said Regina Baepler, a first-grade teacher from the Prairie Home R-V School District.

DNS curriculum is tailored to specific grade levels, and all DNS curriculum units meet the Missouri Department of Elementary and Secondary Education Missouri Learning Standards.

“This is an excellent program,” said Baepler.

For more information on Discover Nature Schools, visit short.mdc.mo.gov/42D.

Discover Nature — Fishing

Aside from DNS curriculum, MDC also offers Discover Nature — Fishing (DNF), which works to connect students to aquatic education and conservation through hands-on learning. This program helps students gain the skills and confidence to go fishing on their own while they learn about aquatic ecology, fish habitat, and fish identification. Students also get to practice the process of baiting a hook, casting, and proper fish handling techniques. DNF is designed for students in grades 3–12.

Educators can receive training on the DNF program from local MDC staff in just a few short hours. Completion of a DNF training workshop allows educators to get access to equipment and transportation grants to help mitigate the costs associated with implementing a program like DNF. MDC offers free teacher kits, and these teacher kits contain the necessary supplies for teaching the DNF curriculum including a classroom set of fishing poles, bobbers,

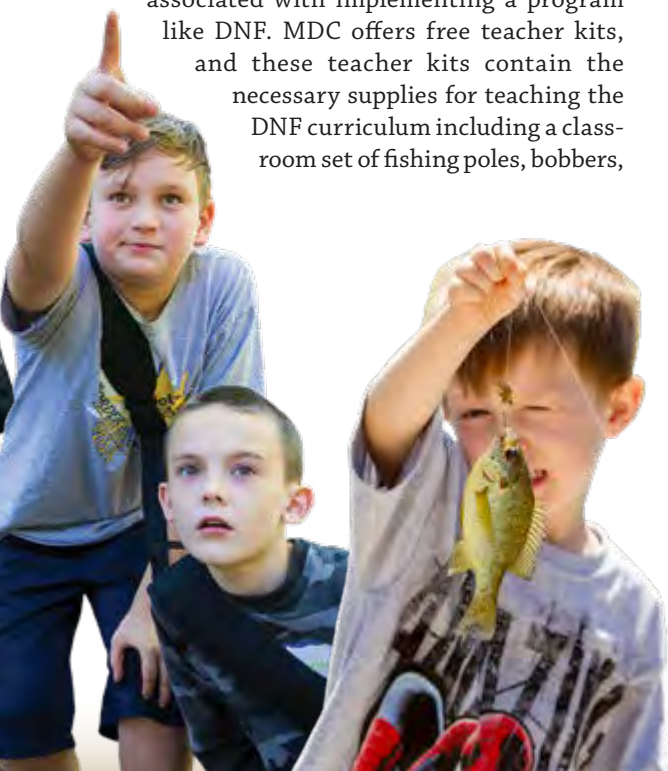


hooks, and sinkers. For educators looking to take their students off school property to fish, a transportation grant may be available to help with the bus transportation cost.

Older students who have a passion for fishing are encouraged to research MDC’s High School Fishing Club Grant Program. This program is designed to educate and recruit new anglers to help conserve and restore Missouri’s aquatic natural resources. This grant is available to high school fishing clubs that are officially recognized by their school district. Up to \$500 per grant is available annually for fishing clubs that participate in activities including, but not limited to, facilitating activities in which club members are teaching and mentoring youth on angling and aquatic education, assisting with MDC fishing events such as kid’s fishing clinics and free fishing days, working on fish habitat improvement projects, and more.

To learn more about Discover Nature — Fishing, visit short.mdc.mo.gov/42z.

The Discover Nature — Fishing program helps students gain skills and confidence to go fishing on their own.





Hunter Education

Missouri has a rich history of promoting hunting and firearm safety, and as traditional hunters decrease in number, educating new hunters is pivotal to keeping the tradition alive in the Show-Me State. MDC's hunter education program teaches students the ethics behind hunting, firearms operation and firearm safety, wildlife identification, game care, survival, hunting techniques, rules, information unique to Missouri, and much more. Missouri's hunter education course is required for any hunter ages 16 and older born on or after Jan. 1, 1967, and there are two options for those looking to complete their certification.

The first option is a two-step process for those ages 11 and older. In this case, the course is divided into two sections — the knowledge portion and the skills portion. The knowledge portion can be completed online for a fee, a self-study guide can be ordered, free of charge, and delivered for the participant to complete, or participants can attend a classroom session for free. For the skills session and final exam, participants who choose this avenue must register for an in-person skills session and pass the final exam. The second option covers the same material, but it is completed virtually. This option is only available to participants ages 16 and older.

Hunter education has reduced hunting accidents and deaths by more than 70 percent since it became mandatory in 1987. For this reason, all hunters in Missouri are required to become hunter-education certified.

Visit short.mdc.mo.gov/42K for more information on hunter education.



MoNASP

In Missouri, thousands of students learned the basics of archery as a part of their school curriculum during the 2022–2023 school year as part of the Missouri National Archery in the Schools Program (MoNASP). Over 530 Missouri schools are actively participating in MoNASP, while the National Archery in Schools Program (NASP) has served millions of students nationwide since its founding in 2002.

Archery is an inclusive activity as nearly everyone, regardless of age, size, or physical ability, can excel at archery.

MoNASP State Coordinator Rob Garver has been involved with the program for about 14 years. Through his involvement, Garver has assisted with both local tournaments and the MoNASP state tournament and has trained teachers on how to implement MoNASP into their classrooms.

"The National Archery in the Schools Program is an in-school program aimed at improving educational performance among students in grades 4–12," Garver said. "Through it, students are learning focus, self-control, discipline, patience, and lessons required to be successful in the classroom and in life."

“
Education
is vital to
ensuring
people are
comfortable
and safe
when
recreating
outdoors.

—Shawn Gruber,
education chief



Encouraging students to safely interact with outdoor activities is the primary goal of MDC educators around the state.



Educators who are interested in MoNASP will be delighted to learn that program costs can be mitigated through grants that aim to help educators purchase and maintain their MoNASP gear. The grant is provided by the Missouri Conservation Heritage Foundation, Conservation Federation of Missouri, NASP, and MDC to provide up to \$3,000 worth of equipment for new schools, and up to \$700 for existing schools five years after implementation. To qualify for this rebate, teachers must attend the free Basic Archery Instructor training, offered by MoNASP all over the state.

For more information on MoNASP, visit short.mdc.mo.gov/42r.

Outdoor Skills

Many Missourians recognize that hunting and fishing are two major types of outdoor skills, but what people do not realize is that outdoor skills also include outdoor cooking, outdoor survival, and trapping, among other things.

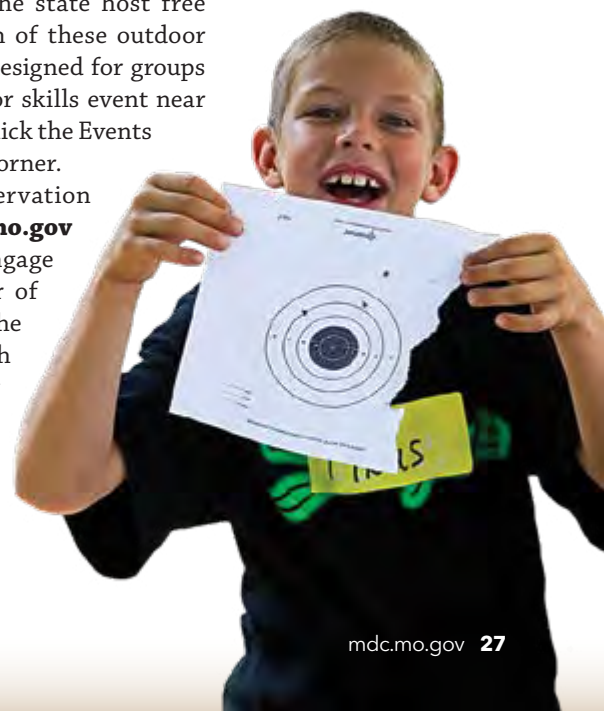
Outdoor cooking can be done in a suburban environment or in the middle of nowhere — all you need are the right ingredients and cooking instruments. As for outdoor survival, outdoor

enthusiasts use the skills of orienteering and map reading to ensure their safety when they venture outdoors. Trapping in Missouri has a rich history, and the hobby can be used for population management of smaller game such as furbearers, and trappers can also harvest meat for consumption from the activity.

MDC educators around the state host free events centered around each of these outdoor skills, and these events are designed for groups of all ages. To find an outdoor skills event near you, go to mdc.mo.gov and click the Events tab in the upper right-hand corner.

To find your local conservation educator contact, go to mdc.mo.gov and click the Contact & Engage tab on the top right corner of the page. From there, click the Local Contacts link and search for your county to find your local MDC office. ▲

Maddie Fennewald is the MDC media specialist for the central and northeast regions of Missouri.



Get Outside

in JULY → Ways to connect with nature

Soaking Up the Heat

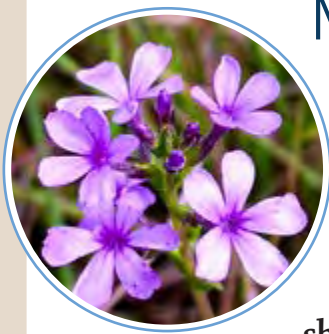
Just when we are dogged by the summer's heat and humidity, it is peak time for the **regal moth**. The best time to see this species is mid-July through early August. Adults only live for one to two weeks.



Nature's Fireworks

All during July, flowers spread open and look like fireworks, just in time for Independence Day! One wildflower to lookout for this month is

American bluehearts. This patriotic-named wildflower blooms through September. Learn more about it at short.mdc.mo.gov/42v.



Hurray for the Red, White, and Blue ... and Black?

It's typical this time of year for us to hail Old Glory and her colors of the red, white, and blue. But for nature — and fruit — lovers, this time of year also brings cheers for beautiful blacks, deep purples, and other colors we see in delicious ripe berries. Just a few that are ripe for the picking:

- **Blackberries** mature through August.
- **Lowbush blueberries** ripen through August.
- **Gooseberries** are available through September.

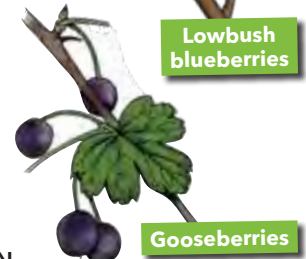
These berries are versatile and can be used now or frozen and used later. For recipe ideas, visit short.mdc.mo.gov/4mN.



Blackberries



Lowbush blueberries



Gooseberries

VIRTUAL

CREATURE FEATURE: Eastern Hog-Nosed Snake

Wednesday • July 17 • 2-2:30 p.m.

Online only

Registration required by July 17. To register, call 888-283-0364 or visit short.mdc.mo.gov/46Z.

All ages

Meet one of the best actors of the snake world — the eastern hog-nosed snake. Sometimes called the puff adder, this snake is full of tricks when it comes to deterring predators. Get an up-close look at this fascinating snake and learn what makes them unique.



Natural Events to See This Month

Here's what's going on in the natural world.



Male green treefrogs chorus: quank, quank, quank.



Flathead catfish spawn.



Grass spiders build delicate, sheetlike webs in grass and shrubs.

Cool Evening Breezes

Sometimes the best times to get outside in the summer is at night. We not only avoid the heat of the day, but we get to experience nature's night life. Listen for the chittery chips of **chimney swifts** as they dart and glide with stiff wings over rooftops in early evening. They eat the insects that bug us.



VIRTUAL

Trapping Furbearers

Thursday • July 18 • 1-2 p.m

Online only

Registration required by July 17. To register, call 888-283-0364 or visit short.mdc.mo.gov/46o.

Wondering how to begin trapping? Join us in this virtual program where we'll teach you the basics to get started and how to trap successfully. We'll talk about some of the traps you'll use and how to set up one effectively, the history of commonly trapped species, and what permits and permissions might be needed.

Blow the Trumpets

Black trumpet mushrooms, a choice edible, appear through September. They can be found on rocky, mossy hillsides in deciduous woods. These mushrooms are small and their color blends in nicely with the forest floor, so they can be a challenge to hunt. However, once you find one, there will be others. The black trumpet is highly fragrant, and the flavor intensifies when dried. It can be ground and used as a seasoning. It is delicious with eggs and beautiful as a garnish for squash soup.



Many snake species, like the prairie ring-necked snake, hunt only at night.



Katydid's rasp their mating calls: *Katy did! Katy didn't!*

SIMPLE
×
OUTDOOR
×
MOMENTS



HAMMOCKING

Spending time in nature
is never wasted.

FIND A PLACE TO GO.

Download the free
MO Outdoors app.



Places to Go

NORTHEAST REGION

Hidden Hollow Conservation Area

A quiet place to get away

by Larry Archer

✧ A well-known discount airline once ran television commercials asking viewers, “wanna get away?” If the answer is “yes,” but travel of that extent is a bit much, maybe northeast Missouri’s Hidden Hollow Conservation Area (CA) is closer to the right “get away” for you.

“It’s pretty quiet, I would say, during the summer months,” said Wildlife Biologist Andrea Schuetz. “There’s a lot of hiking opportunities, if you want to get off the beaten path, and a great population of wildlife.”

Located on 1,360 acres in Macon County, Hidden Hollow CA is a popular spot for deer and turkey seasons, but it offers plenty of summer solitude for campers, backpackers, and birders. And while there are designated camping areas adjacent to each of the area’s three parking lots, campers are not limited to those locations, Schuetz said.

“There is walk-in camping available, so you can backpack in and camp where you’d like outside of firearm season,” she said.

MDC maintains nearly 9 miles of mowed service roads, giving hikers and determined bikers plenty of opportunity to get around the area. A keen eye may also find the area’s namesake “hidden hollow,” which is the result of an unnamed intermittent stream that runs through the area.



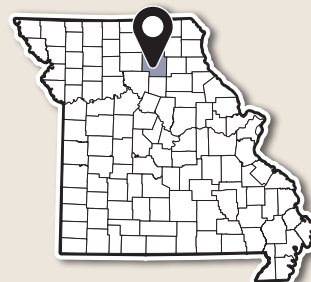
“We have a really healthy deer and turkey population on the area, numerous songbirds of different species, and a variety of woodland animals.”

—Wildlife Biologist Andrea Schuetz

DAVID STONNER



A small tributary of Cottonwood Creek is one of several intermittent streams on Hidden Hollow CA. While over 80 percent of the area is oak and hickory forest, smaller areas of open fields, glades, and native prairie include blooming flowers like these on a hillside glade (inset).



HIDDEN HOLLOW CONSERVATION AREA

consists of 1,360 acres in Macon County. From LaPlata, take Hwy. 156 west 7 miles, then Hwy. 3 south 1.50 mile, and Fox Road west 3 miles.

39.9986, -92.6385

short.mdc.mo.gov/42A 660-785-2420

WHAT TO DO WHEN YOU VISIT



Biking Includes 8.6 miles of service roads allowing bikes year-round.



Birdwatching The eBird list of birds recorded at Hidden Hollow CA in July is available at short.mdc.mo.gov/4L3.



Camping Designated camping sites. Open camping (walk-in/backpack) allowed except during deer and turkey seasons.

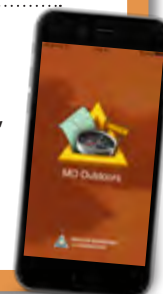


Hunting Deer and turkey
Regulations are subject to annual changes. Refer to MDC's regulation page online at short.mdc.mo.gov/Zjw.

Also **rabbit** and **squirrel**

DISCOVER MO OUTDOORS

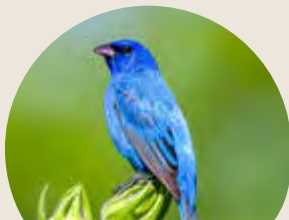
Users can quickly and easily find outdoor activities close to home, work, or even while traveling with our free mobile app, MO Outdoors. Available in Android or iPhone platforms at mdc.mo.gov/mooutdoors.



WHAT TO LOOK FOR WHEN YOU VISIT



Summer tanager



Indigo bunting



Rough greensnake



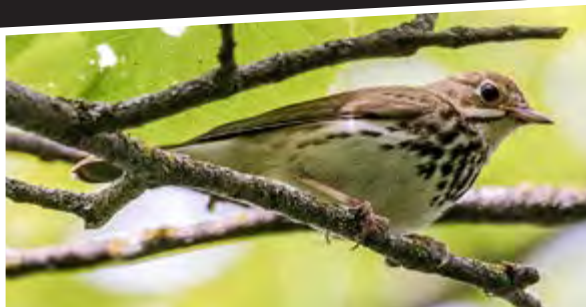
Raccoon



Ovenbird

Seiurus aurocapilla

Status	Size	Distribution
Common migrant	6 inches	Statewide



Did You Know?
Ovenbirds require large tracts of mature, closed-canopy forest. When development degrades those forests, ovenbirds decline from decreased habitat and exposure to nest parasites, like cowbirds.

The ovenbird is plump and large for a warbler, though smaller than many sparrows. Its walk can best be described as jerks, usually with its tail cocked up. Adult upper parts are dark olive brown with an orange crown. There are two dark border stripes along the orange crown and a bold white eye ring. Underparts are white, with heavily streaked breast and sides; the streaking is made up of a series of connecting spots. The legs are pink.



LIFE CYCLE

Ovenbirds arrive in Missouri in mid-April and depart by mid-October. Their nests resemble tiny, rustic outdoor ovens, giving the bird its common name. Nests, which are woven of grasses, leaves, twigs, bark, and other fibers, have a domed roof and a side entrance and are built amidst leaf litter. Females drop leaves and sticks on the nest's roof to provide additional camouflage. A clutch contains three to six eggs, which are incubated for 11–14 days. After hatching, the young remain in the nest less than two weeks before venturing out. An ovenbird can live to be at least 11 years old.



FOODS

Ovenbirds feed on the forest floor, turning over dried fallen leaves with their bills, searching for snails, worms, insects, and spiders.

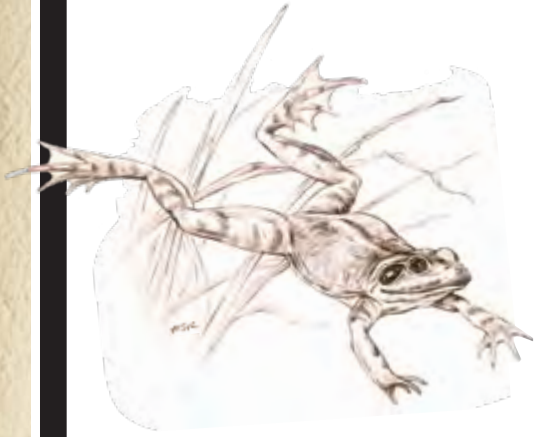


HUMAN CONNECTIONS

During migration, ovenbirds are commonly seen in large forested regions in Missouri, especially in southern Missouri. To locate an ovenbird, first learn to recognize its call — *TEACHer-TEACHer-TEACHer*. Use binoculars. The bird, most likely, will be on the ground or on lower branches.

Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖



FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:

- Catch-and-Keep:
May 25, 2024–Feb. 28, 2025

Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2024

Nongame Fish Giggling

Impounded waters, sunrise to sunset:
Feb. 16–Sept. 14, 2024

Streams and impounded waters,
sunrise to midnight:
Sept. 15, 2024–Feb. 15, 2025

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2024

Trout Parks

State trout parks are open seven days a week
March 1 through Oct. 31.

Catch-and-Keep:

March 1–Oct. 31, 2024

HUNTING

Black Bear*

Oct. 21–30, 2024

Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2024

Coyote

Restrictions apply during April, spring turkey
season, and firearms deer season.

Open all year

Crows

Nov. 1, 2024–March 3, 2025

Deer

Archery:

Sept. 15–Nov. 15, 2024

Nov. 27, 2024–Jan. 15, 2025

Firearms:

- Early Antlerless Portion
(open areas only): Oct. 11–13, 2024
- Early Youth Portion (ages 6–15):
Nov. 2–3, 2024
- November Portion:
Nov. 16–26, 2024
- CWD Portion (open areas only):
Nov. 27–Dec. 1, 2024
- Late Youth Portion (ages 6–15):
Nov. 29–Dec. 1, 2024
- Late Antlerless Portion (open areas only):
Dec. 7–15, 2024
- Alternative Methods Portion:
Dec. 28, 2024–Jan. 7, 2025

Doves

Sept. 1–Nov. 29, 2024

Elk*

Archery:

Oct. 19–27, 2024

Firearms:

Dec. 14–22, 2024

Groundhog (Woodchuck)

May 6–Dec. 15, 2024

Pheasant

Youth (ages 6–15):

Oct. 26–27, 2024

Regular:

Nov. 1, 2024–Jan. 15, 2025

Quail

Youth (ages 6–15):

Oct. 26–27, 2024

Regular:

Nov. 1, 2024–Jan. 15, 2025

Rabbits

Oct. 1, 2024–Feb. 15, 2025

Sora, Virginia Rail

Sept. 1–Nov. 9, 2024

Squirrels

May 25, 2024–Feb. 15, 2025

Teal

Sept. 7–22, 2024

Turkey

Fall Archery Portion:

Sept. 15–Nov. 15, 2024

Nov. 27, 2024–Jan. 15, 2025

Fall Firearms Portion:

Oct. 1–31, 2024

Waterfowl

See the Migratory Bird and Waterfowl
Hunting Digest or visit short.mdc.mo.gov/ZZx
for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2024

Woodcock

Oct. 18–Dec. 1, 2024

*Only hunters selected through a random drawing
may participate in these hunting seasons.

For complete information about seasons, limits,
methods, and restrictions, consult the *Wildlife
Code of Missouri* at short.mdc.mo.gov/Zib.

Current hunting, trapping, and fishing regulation
booklets are available from local permit vendors
or online at short.mdc.mo.gov/ZZf.

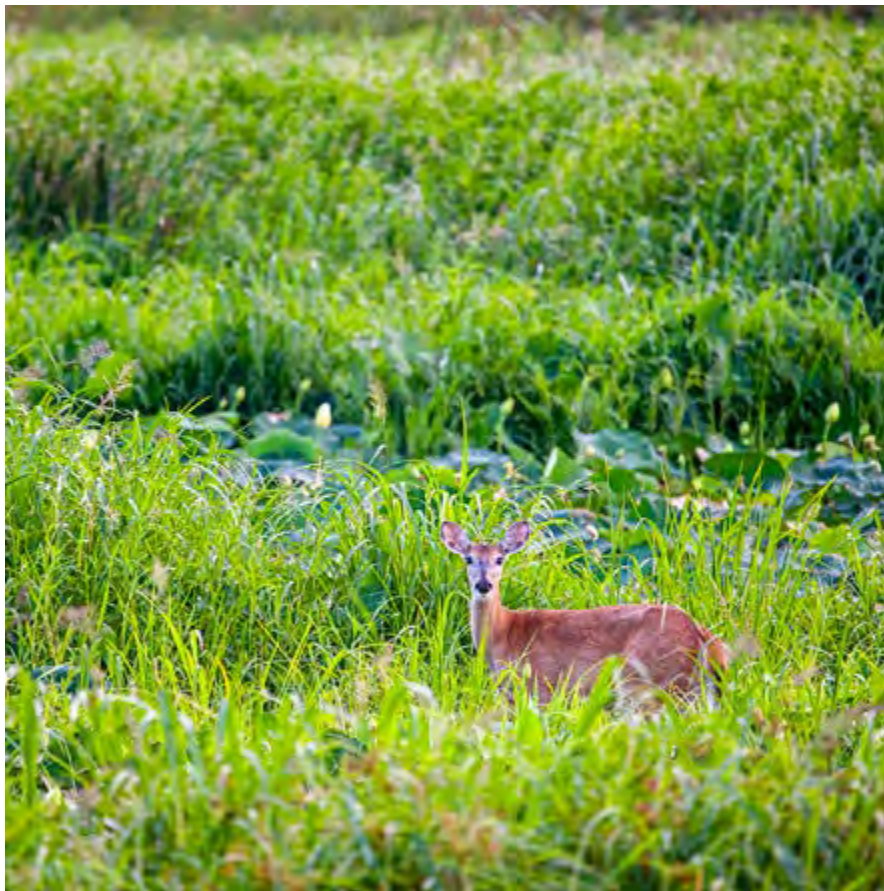


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Missouri in July can get hot and humid, but don't let that keep you indoors. There are plenty of places to explore and stay cool. Like this doe, which is enjoying a wetland habitat at Loess Bluffs National Wildlife Refuge. Get outside and see what you will discover.

📷 by **David Stonner**

Free to Missouri households

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